

# Study of Higgs self-coupling @ ILC

$$V(\eta_H) = \frac{1}{2}m_H^2\eta_H^2 + \lambda v\eta_H^3 + \frac{1}{4}\lambda\eta_H^4$$

- General issue: evaluate the self-coupling from cross section
- Background and analysis strategy
- DBD benchmark study: ZHH @ 500 GeV, using  $Z \rightarrow ll$ ,  $vv$ ,  $qq$  and  $H \rightarrow bb$
- DBD benchmark study:  $vvHH$  @ 1 TeV, using  $H \rightarrow bb$
- challenge and prospects for future study

